

REMARKS

By way of the present communication applicants have amended claim 1 so that the T95 point is greater than about 335°C. Support for this addition can be found in Table 1 on page 17 of the specification and Table 4, page 27 of the instant specification.

Claims 1 to 35 are in the application and under prosecution.

Claims 1-3, 6-9, 14-21, 34 and 35 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Angevine et al.

Examiner's Position

It is the Examiner's position that Angevine et al., US Patent No. 6,150,575, teach diesel fuel having good ignition qualities, good combustion emission performance, and good low temperature characteristics. Such a fuel is characterized as having a cetane number of at least 45, a total aromatics content of 10 to 15 wt.%, a polynuclear aromatics content of less than 11 wt.%, and a sulfur content of not more than 50 ppm. The Examiner points out that Table 3 of Angevine et al. disclose preferred compositional parameters for the fuel and that Table 4, Example 1 teaches a diesel fuel having 14 wt.% total aromatics, 0.6 wt.% polynuclear aromatics, 13 ppm sulfur, an initial boiling point of 183°C, T10 point of 225°C, and a final boiling of 360°C.

Applicants' Position

In order to anticipate, a given reference must teach each and every element of the claimed invention either directly or indirectly. The claims, as now amended, require a T95 point of greater than about 335°C, along with a total aromatics content from about 15 to 35 wt.%. This is not taught or suggested by Angevine et al.. Therefore, applicants request that the Examiner reconsider and withdraw this rejection.

Claims 4, 10, 11, 25, 26, 28, 29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Angevine et al.

Examiner's Position

Angevine et al. is relied on as cited above, but the Examiner states that it differs from the instantly claimed invention in teaching a maximum total aromatics content of 15 wt.% as opposed to the instantly claimed composition having a minimum total aromatics content of "about 20 wt.%."

The Examiner believes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the amount of aromatics in the diesel fuel taught by Angevine et al. to a maximum amount of "about 20 wt.%" based on the reasonable expectation that such a diesel fuel would have similar properties, i.e., good ignition qualities, good combustion emission performance, and good low temperature characteristics.

Applicants' Position

There is nothing in Angevine et al. to suggest to one having ordinary skill in the art to increase the total aromatics of 20 wt.%, especially in combination with a T95 point of greater than about 335°C. In fact, the art, at the time the instant invention was made, suggested that in order to reduce emissions one would have to reduce the total aromatics content - not increase it.

Illustrative of this teaching is the ATTACHMENT California Air Resources Board (CARB) requirement that diesel have no more than 10% aromatics unless it can be shown that comparable emissions can be achieved with a fuel having more than 10% aromatics. Thus, the prior art teaches away from increasing aromatics in order to obtain good emissions characteristics. The present invention is patentable based on the finding that good emission characteristics can be obtained at relatively high aromatics levels, namely 15 to 35 wt.% as long as the ratio of Total Aromatics to PNA's is greater than 11. Thus, in view of teachings of the

prior art, one having ordinary skill in the art and knowledge of the Angevine patent and its disclosure would not have found the present invention obvious. Therefore, applicants also request that the Examiner reconsider and withdraw this rejection.

Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al.

Examiner's Position

It is the Examiner's position that Barry et al., US Patent No. 6,004,361 teach diesel fuels comprising a straight run distillate fuel having an end point not greater than 300°C, a cetane number in the range of 55 to 60, a specific gravity not greater than 0.83, a sulfur content not greater than 0.1 wt.% and an aromatics content of 18 to 25 wt.%. The Examiner further states that the distillation of the fuel is controlled so as to limit the density of the fuel since high densities have been found to contribute significantly to the emission of particulates and that the final boiling point of the fuels is therefore held below about 315°C, and preferably below 300°C. The Examiner believes that Barry et al. differ from the instantly claimed invention in not specifically disclosing a fuel having the claimed combination of properties, but that it would have been obvious to one having ordinary skill in the art at the time the invention was made to follow the above cited teachings to arrive at the instantly claimed composition.

Applicants' Position

It is applicants' position that the claims, as now amended, require a T95 point greater than about 335°C thus putting the final boiling point of the present invention above the maximum of 315°C as taught by Barry et al. This would not have been obvious to one having ordinary skill in the art and is outside of the teaching of Barry et al. Therefore, applicants request that this rejection also be withdrawn.

Double Patenting Rejection

Claims 1-35 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37 of copending application number 09/553,373. Although the conflicting claims are not identical, the Examiner believes that they are not patentably distinct from each other because the distillate fuels of the USSN 09/553,108 claims are encompassed by the instant claims.

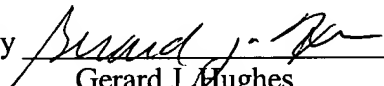
Claims 1-37 have also been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-15 of copending application number 09/553,107. Although the conflicting claims are not identical, the Examiner believes they are not patentably distinct from each other because the distillate fuels of 09/553,373 claims are encompassed by the instant claims.

Applicants submit herewith Terminal Disclaimers to overcome the above obviousness-type double patenting rejections.

Applicants' attorney notes that art has been made of record but not cited against the instant claims.

In view of the above, and in view of submission of the Terminal Disclaimer, applicant requests that the Examiner pass this application to allowance.

Respectfully submitted,

By 
Gerard J. Hughes
Registration No. 41,855
Phone: (225) 977-4942

**Marked-up Version of Amended Claims Accompanying Response to First Office Action For
USSN 09/553,108.**

In the Specification:

Page 26, first full paragraph:

[By using the diesel fuel compositions of the present invention, the level of the pollutants NO_x and particulate matter is reduced to values which comply with current and projected levels specified in environmental legislation, i.e. NO_x below 0.5g/Km and particulate matter below 0.05g/Km.] By using the diesel fuel compositions of the present invention in a compression ignition engine, the level of the pollutants NO_x and particulate matter is reduced. Accordingly, emissions levels of NO_x below 0.5g/Km and particulate matter below 0.05g/Km may be attained. These values/levels are significantly lower than that for comparable fuels in which the aromatic content split (i.e. the total aromatics to PNA ratio) falls outside the ranges of the present invention as shown in the examples below.

In the Claims:

1. (Once Amended) A distillate fuel composition boiling in the range of about 190°C to 400°C with a T10 point greater than 205°C, a T95 point of greater than about 335°C, and having a sulfur level of less than about 100 wppm, a total aromatics content of 15 to about 35 wt.%, a polynuclear aromatics content of less than about 3 wt.%, and wherein the ratio of total aromatics to polynuclear aromatics is greater than about 11.
- [25.] 22.** (Once Amended) A distillate fuel composition boiling in the range of about 190°C to 400°C with a T10 point greater than 205°C, a T95 point of greater than about 335°C, and having a sulfur level of less than about 50 wppm, a total aromatics content

of 20 to about 35 wt.%, a polynuclear aromatics content of less than about 2 wt.%, and wherein the ratio of total aromatics to polynuclear aromatics is greater than about 13.

[26.]23. The distillate fuel composition of claim [25] 22 wherein the sulfur level is less than about 10 wppm.

[27.]24. The distillate fuel composition of claim [25] 22 wherein the total aromatics content is from about 25 to 35 wt.

[28.]25. The distillate fuel composition of claim [25] 22 wherein the polynuclear aromatics content is less than about 1.

[29.]26. The distillate fuel composition of claim [25] 22 wherein the ratio of total aromatics to polynuclear aromatics is greater than about 15.

[30.]27. The distillate fuel composition of claim [27] 24 wherein the sulfur level is less than about 10 wppm.

[31.]28. The distillate fuel composition of claim [28] 25 wherein the sulfur level is less than about 10 wppm.

[32.]29. The distillate fuel composition of claim [29] 26 wherein the sulfur level is less than about 10 wppm.

[33.] 30. (Once Amended) An automotive distillate fuel composition boiling in the range of about 190°C to 400°C with a T10 point greater than 205°C, **a T95 point greater than about 335°C**, and having a sulfur level of less than about 10 wppm, a total aromatics content of about 25 to 35 wt.%, a polynuclear aromatics content of less than about 1 wt.%, wherein the ratio of total aromatics to polynuclear aromatics ranges from about 15 to about 25.

[34.] 31. (Once Amended) A method for abating particulate and Nox emissions in a compression ignition engine comprising providing to the engine a distillate fuel composition boiling in the range of about 190°C to 400°C with a T10 point greater than 205°C, **a T95 point greater than about 335°C**, and having a sulfur level of less than about 100 wppm, a total aromatics content of about 15 to 35 wt.%, a polynuclear aromatics content of less than about 3 wt.%, and wherein the ratio of total aromatics to polynuclear aromatics is greater than about 11.

[35.] 32. A fuel composition comprising a distillate boiling in the range of about 190°C to 400°C with a T10 point greater than 205°C, **a T95 point greater than about 335°C**, and having a sulfur level of less than about 100 wppm, a total aromatics content of about 15 to 35 wt.%, a polynuclear aromatics content of less than about 3 wt.%, and wherein the ratio of total aromatics to polynuclear aromatics is greater than about 11, to which is added at least one of (i) one or more lubricity aid, (ii) one or more viscosity modifier, (iii) one or more antioxidant, (iv) one or more cetane improver, (v) one or more dispersant, (vi) one or more cold flow improver, (vii) one or more metals deactivator, (viii) one or more corrosion inhibitor, (ix) one or more detergent, and (x) one or more distillate or upgraded distillate.